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ROCKS AND MINERALS

A Magazine for Mineralogists,
Geologists and Collectors

Official Journal of the Rocks and Minerals Association

April, 1941

Vol. 16, No. 4 **Twenty-Five Cents** **Whole No. 117**

THE ROCKS AND MINERALS ASSOCIATION

PEEKSKILL, N. Y.

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Organized in 1928 for the increase and dissemination of mineralogic knowledge

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To stimulate public interest in geology and mineralogy and to endeavor to have courses in these subjects introduced in the curricula of the public school systems; to revive a general interest in minerals and mineral collecting; to instruct beginners as to how a collection can be made and cared for; to keep an accurate and permanent record of all mineral localities and minerals found there and to print same for distribution; to encourage the search for new minerals that have not yet been discovered; and to endeavor to secure the practical conservation of mineral localities and unusual rock formations.

Ever since its foundation in 1928, the Rocks and Minerals Association has done much to promote the interest in mineralogy. It has sponsored outings, expeditions, formations of mineralogical clubs and the printing of many articles that have been a distinct contribution to mineralogy.

Those of our readers who are members of the Association can rightly feel that they too were sponsors of these many achievements that have helped to give mineralogy a national recognition. Among your frineds there must be many who would like to have a part in the Association's work—to share with you the personal satisfaction, the pleasure, and the benefits of membership. Will you give your friends this opportunity to join the Association by nominating them for membership?

Each new member helps to extend the Association's activities—helps to make your magazine larger, better, and more interesting, and above all assists in the dissemination of mineralogical knowledge.

Some advantages of membershpe: All members in good standing receive:

(1) **Rocks and Minerals**, a monthly magazine. (2) A member's identification card that secures the privileges of many mines, quarries, clubs, societies, museums, libraries. (3) The right to participate in outings and meetings arranged by the Association. (4) The right to display a certificate of membership and to place after their names a designation indicating their membership or to advertise membership on stationery, etc. (5) The distinction and the endorsement which comes from membership in the world's largest mineralogical society.

Mineralogical clubs which subscribe for **Rocks and Minerals** also become affiliated members of the Rocks and Mineral Association and enjoy all the advantages which such an affiliation affords.

A number of clubs hold membership in the Association, participate in the annual outings, and co-operate in many ways in furthering the aims and ambitions of the Association.

Affiliation with the world's largest mineralogical society cannot fail to increase membership, enlarge circles of acquaintanceship, and stimulate a keener interest in mineralogy.

A list of affiliated clubs will be found among the back pages of the magazine.

Rocks and Minerals

PUBLISHED MONTHLY

Edited and Published by PETER ZODAC

April 1941

Contents for April, 1941

CHIPS FROM THE QUARRY 114

THE GEOLOGY OF THE LINCOLN TUNNEL. PART 1. *By Thomas W. Fluhr* 115

CALIFORNIA NOTES. *By Clark Harrison* 120

THE FIFTH YEAR AT TILLY FOSTER. *By John N. Trainer* 122

SOME RADIUM REACTIONS ON MINERALS. *By Dr. Wm. Newcomet* 126

THE OVER-MONTGOMERY—SCHORTMANN EXHIBITION SALE—JANUARY 17-18, 1941 127

AN AGATE "OSPREY" FROM MONTANA 134

COLLECTOR'S KINKS. SPLITTING ROCK WITH THE AID OF HEAT. *By James A. Taylor* 135

CHEMICAL ENGINEERS NEEDED FOR NATIONAL DEFENSE WORK 135

MARK M. FOSTER BUYS FAMOUS OPAL MINE 135

KIBBLEHOUSE QUARRY, PERKIOMENVILLE, PA. *By William F. Haeberle* 136

WITH OUR DEALERS 138

OBITUARY NOTICE—(REV. FERDINAND E. BOGNER) 138

COLLECTORS' TALES (THE NON-STOP FLIGHT OF MAGNETITE) *By Dr. A. C. Hawkins* 139

CLUBS AFFILIATED WITH THE ROCKS AND MINERALS ASSOCIATION 140

CLUB AND SOCIETY NOTES—

MINERALOGICAL SOCIETY OF ARIZONA 141

SOUTHWEST MINERALOGISTS 141

NEWARK MINERALOGICAL SOCIETY 141

PLAINFIELD MINERALOGICAL SOCIETY 141

ROCKS AND MINERALS ASSOCIATION 141

NORTHERN OHIO GUILD 138

BROWN UNIVERSITY ACQUIRES BAKER COLLECTION 142

LAPIDARY KINKS. A CONTAINER FOR LOOSE ABRASIVES. *By William J. Bingham* 142

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ROCKS and MINERALS PEEKSKILL, N. Y., U. S. A.

The Official Journal of the Rocks and Minerals Association

Chips From The Quarry

INCOMPLETE LOCALITIES

The Over - Montgomery - Schortmann Exhibition Sale held in New York City on Jan. 17-18, 1941, was a grand success. The minerals were attractively displayed, the number of visitors in attendance were many, and a large number of specimens were sold.

There was one feature about the minerals on display that created considerable interest and favorable comment. It was not the gorgeous coloring of many of the specimens, their very fine crystal forms, nor even their generous sizes and prices—it was their labeling. The information about each specimen was not only typed on attractive white cards but it was complete, too. Thus we saw: Goethite, Restormel Iron Mine, Lanlivery, Cornwall, England; Tetrahedrite, Gottesgabe Mine, Roth, Nassau, Germany; Celestite, Giona Mine, Girgenti, Sicily, Italy.

We wish that some of the amateur mineral dealers of the country could have been present as they would have obtained much valuable information on labeling specimens. Labeling specimens completely is not an art nor an advertising feature but a necessity. Collectors, in the East especially, demand this.

Dealers who persist in sending out specimens whose localities are given simply as a county or province, or what is worse yet, state or country, will not last very long in business. In these days of keen competition when in order to stay in business a dealer must be alert, energetic and up-to-date, to ignore this very vital factor of selling—incompleted localities—will be to court disaster. Collectors may not take the trouble to complain about this matter but their orders will cease and this is something that an established dealer does not want to happen.

We realize of course that it is not always possible to obtain a complete locality for every mineral specimen. We do know, however, and this is verified by the numerous complaints we have received from collectors, who have appealed to us for

help, that some dealers make no effort to remedy the situation.

Dealers when making wholesale purchases should demand complete information regarding the source of the specimens—name of mine or quarry if possible but at least the town, village, settlement or even city from which the specimens came. This information should appear on every label accompanying a specimen except on s t u d y specimens which retail at 10c or 15c each when it does not have to be complete.

We want to assure our regular advertisers, however, that this editorial is not aimed at them. The individuals we want to reach are those who advertise once in awhile, those who may plan to advertise, and those collectors who supply wholesale lots to dealers. We do hope that if any of these dealers and collectors have been guilty in the past that they will take this editorial not as a reprimand, nor even as a criticism but as a friendly note of advice.

Peter Zodac

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Whole No. 117

THE GEOLOGY OF THE LINCOLN TUNNEL

Part 1

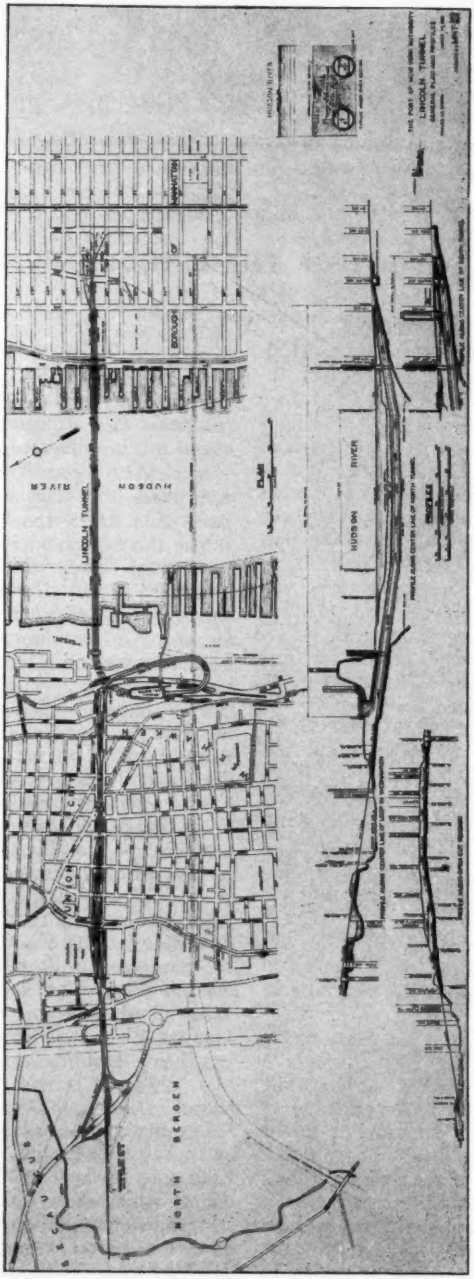
By THOMAS W. FLUHR

The Lincoln Tunnel crosses the Hudson River between Weehawken, N. J., and West 39th St., New York City. Two tubes, constructed by the use of shields and compressed air, pass under the river. When this tunnel is mentioned, most people think at once of these tunnels passing beneath the river. Actually the under-river section is only a small part of this great project. The Lincoln Tunnel embraces a complicated system of viaducts, bridges, depressed and elevated highways, approaches, and plazas.

The Lincoln Tunnel project, at first known as the Midtown Hudson Tunnel, was financed, designed and built by the Port of New York Authority. Mr. O. H. Ammann, Director of Engineering, was ably assisted by Chief Engineer J. C. Evans, Assistant Chief Engineer E. W. Stearns, Engineer of Design Ralph Smillie, and Engineer of Construction Col. C. S. Gleim. Dr. Charles P. Berkey acted as Consulting Geologist, and was aided by the writer.

General Features of the Project.

The Lincoln Tunnel really begins in the Jersey Meadows, on the west side of the Palisade ridge. Here an embankment has been built on the meadows to join New Jersey State Highway No. 3 with the tunnel. From the meadows the tunnel approach runs eastward, crossing a railroad and several highways by means of a bridge, which carries the approach onto the west side of the Palisade ridge; access roads connecting the approach with New Jersey State Highway No. 1 and the Paterson Plank Road. The route over the Palisades itself passes through the built-up sections of Union City and Weehawken. To avoid disturbance to traffic it was necessary to carry the through tunnel traffic in a depressed highway, excavated in the diabase of the Palisades. Where the approach reaches Pleasant Ave. there is a sharp break in the topography. A valley runs north and south, and in the depression are two main highways, Park Ave. and Hudson County Boulevard East. The approach crosses and connects with these highways by means of a complicated system of approach ramps and a bridge. These structures bring the approach onto the west side of Kings Bluff, a fault block split off from the main ridge of the Palisades. Kings Bluff is one of the classic localities in local geology, the major features having been described in U. S. G. S. Folio No. 83. The approach follows the west side of the Kings Bluff block on a cut-and-fill embankment and at the south end of Kings Bluff enters a spiral elevated viaduct which brings the approach in a wide loop to the Weehawken Plaza. It then enters rock tunnels which pass beneath Kings Bluff. At the east side of Kings Bluff, near the west shore of the Hudson River, shafts were sunk and a ventilating building erected. From here twin tubes pass beneath the river to Manhattan. The south tube was completed before the north was begun. These tubes enter caissons at the Manhattan bulkhead line at the east side of the river, one of which serves as a foundation for a ventilation building, and the south tube then proceeds through a tunnel to the Manhattan Plaza which lies between



General Plan and profiles of Lincoln Tunnel.

Ninth and Tenth Avenues. As yet the plaza for the north tube has not been constructed nor that tube opened for traffic.

General Geologic Features.

At the Jersey meadows there is a deep deposit of fine silts and clays, a lake or estuarine deposit of glacial origin, overlain by several feet of soft swamp muck. At the toe of the slope where the Palisade ridge rises out of the meadows, the fine silts and clays are underlain by coarser deposits of sands, gravel and boulders; modified glacial drift. Beneath these in turn is the rock floor.

Sedimentary deposits, now represented by shales and sandstones, were laid down in Triassic time. These were tilted to the west and were intruded by a sill of basic igneous rock or diabase. This intrusive sill roughly followed the bedding of the sediments but at various places cut across the strata. Erosion, removing part of the overlying sediments, has exposed this sill thus forming the Palisade ridge. The underlying sediments can be seen beneath the diabase on the east side of the ridge, while on the west the overlying sediments can be found.

The sandstones and shales which flank the west side of the Palisades dip gently to the west at an angle of 15 degrees. They are soaked, injected, and baked by the diabase below so as to form a mixed rock type. Diabase constitutes the main ridge. At Park Ave. and Hudson County Boulevard East, there is a narrow valley, resulting from erosion along the course of a normal fault which separates the main Palisades ridge from the Kings Bluff fault block to the east. Kings Bluff is a block of diabase underlain by sediments which has been split off from the main Palisade ridge by this fault, which at the tunnel crossing has a vertical displacement of some 300 feet. The shales and sandstones which underly the diabase sill are exposed in this fault valley and also at the east side of Kings Bluff. The faulting is not simple, subsidiary faults branch off from the main fault, and cross faults again fracture the mass into slivers and blocks.

The tunnels from the Weehawken Plaza enter shales and sandstones at the portal, cross the main fault on the west side of Kings Bluff into the diabase, and before reaching the ventilation shaft at the east side of Kings Bluff pass out of the diabase again into the shales and sandstones. At the ventilation shaft is found one of the small fine-grained diabase stringers which are offshoots from the main sill sent out into the adjacent sediments. Another normal fault is present near the river's edge, but in this case the western side is downthrown.

The tunnels, constructed under compressed air by shield methods, pass through modified glacial drift and fine-grained glacial varve deposits into the river silt, in which they continue until they reach Manhattan.

In Manhattan much artificial fill is found in the river silt. Beneath the river silt is modified glacial drift, and beneath this the bedrock, Manhattan schist. The bedrock is not a simple schist but has been intruded and injected by an aplitic pegmatite. This material makes up the rock underlying a large part of the Manhattan Plaza.

The details of the geologic features of the various sections of the tunnel project will be described in order, from west to east. While this is not the order in which they were constructed it will give a more orderly and understandable arrangement of the material.

The Approach Section West of the Palisades Ridge.

This section presented a difficult engineering problem. To the west are the meadows. Out of them rises the Palisade ridge. At the base of the ridge are a railroad and highways. The approach, crossing the meadows on an embankment, had to rise into the air, to be carried over the railroad and highways, finally to reach the main ridge at a point almost 100 feet higher in elevation than the meadows.

Beneath the Jersey meadows are deep deposits of fine silts and clays of glacial origin, laid down in a lake or estuary, and these are overlain by a thickness of several feet of swamp muck. Where the Palisade ridge begins to rise out of the meadows these fine silts and clays are underlain by coarser deposits of sand,

gravel and boulders; modified glacial drift. Beneath these in turn is the bedrock, consisting of Triassic shales and sandstones lying above the diabase sill which forms the Palisade ridge. These shales and sandstones which flank the west side of the Palisades dip gently to the west at an angle of 15 degrees. They have been baked, soaked and injected by the underlying intrusive diabase so as to form mixed types of rock.

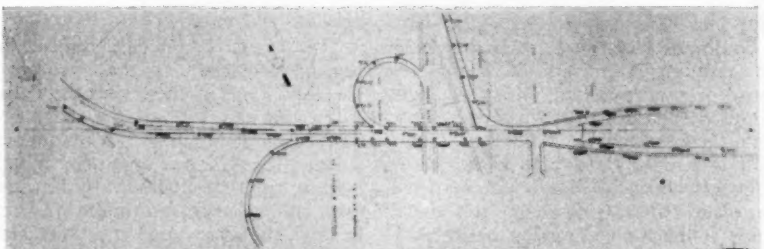
Rock outcrops are plentiful on the top of the ridge but its western slope is covered. No one knew how deep beneath the surface the rock floor would be found at the toe of the slope. Highways already existing ahowed that an embankment could be built on the meadows, but certainly an elevated structure crossing the railroad and highways would need more substantial support.

Accordingly, when a general plan for this part of the approach had been adopted, more than sixty borings were made for the purpose of investigating sub-surface conditions. Many of these borings were drilled into bedrock. A profile was drawn as an interpretation of the results of this exploratory program.

The borings showed that on the west slope of the Palisades ridge the overburden is thin and the quality of the diabase good. From the vicinity of Prospect Ave. to the railroad the rock floor drops off rapidly in elevation. The kind of rock also changes, but all of it is sufficiently strong to support the structure to be placed on it. The depth to bedrock in the section between Prospect Ave. and the railroad is much greater than on the slope of the ridge. Since this is the place where an elevated structure must be built to carry the approach over the railroad and highways, the depth of bedrock and the bearing quality of the overburden are important.

In that section lying between the railroad and New Jersey State Highway No. 3 the rock floor lies too deep to be reached by ordinary construction methods and the structure must depend entirely on the overburden for support.

Diabase outcrops on the Palisade ridge, while lower on the slope shales and sandstones overlie the diabase and extend beneath the adjacent meadows. These can be found outcropping near the intersection of New Jersey State Highway No. 1 and the Paterson Plank Road, where the outcrops show simple intrusion of the diabase into the sediments, unaccompanied by folding or shearing, and the contact dips steeply. Along the line of the approach on the contrary the dip of the intrusive contact is gentle. The sedi-



Geological Section west of Palisades.

ments overlying the diabase have been intimately invaded and soaked by solutions from the diabase, modifying part of the original sediments and producing contact metamorphic rocks. West of the railroad the sediments are unaffected and show no modification.

Glacial deposits constitute most of the overburden. Immediately above the bedrock floor lie deposits of sand, gravel and boulders, varying in thickness and representing the coarser and less well assorted part of the modified glacial drift. Above these coarse and rather substantial glacial deposits are finer ones made up of blue-gray and reddish clays alternating with thin layers of fine red sand. A thickness of several feet of swamp muck lies on top of the clays and fine sands. This muck is soft material and easily displaced. In building the embankment the placing of heavier fill pushed this swamp muck aside in a mud wave. The movement of this mud wave made it difficult to maintain drainage by means of corrugated steel drains which were set beneath the filled section.

Support of the embankment on the clays and fine sands presented no difficulty for such a structure is light, and if it does settle can be brought back to grade readily. The clays and fine sands of course do not have sufficient bearing competence to support the piers carrying the viaduct which crosses the railroad and highways, but fortunately in that section of the approach the substantial sand and gravel deposits are at a depth shallow enough to be reached by piles.

It is to be seen that the engineering problem at this part of the approacn is one of determining what variations in material occur, and their depth and quality, so that the design of the engineering structures may be adapted to meet the requirements set by the sub-surface conditions.

The Palisade Ridge Section of the New Jersey Approach.

This section crosses the main Palisade ridge by means of a depressed highway. The excavation for this highway was made into the bedrock. Bridges span the cut at intervals so that through traffic on the approach is separated from the local traffic.

Many borings were made along this section of the approach. The geologic problem here was relatively simple; that of determining the rock floor profile so that proper design might be made, and so that the engineers and contractors would have information on which to base their bids for the construction contract. The borings were carried only five feet into the rock which was sufficient to determine the bedrock floor profile with the desired degree of accuracy. In spite of this small penetration into bedrock the borings gave additional information in regard to the quality of the rock. Some of the borings secured jointed and broken core. On the basis of this information, supplemented by observations on outcrops in the area, attention was called to the fact that this diabase sill shows great tendency to jointing and that superficial weathering affects the bedrock to some degree, so that there would be places in the rock cut where the rock would not stand without support. Such proved to be the case, for when the excavation was made the rock proved to be weathered and jointed in many places.

In an open rock cut such as this, jointing and weathering do not produce such dangerous conditions as sometimes occur in rock tunnels, but it would have been undesirable to leave a ragged and weathered rock cut exposed close to a heavily traveled traffic artery, with the hazard of possible rock falls, and heavy sloping rubble walls were constructed as a facing for the jointed rock ledges. Facing these rock cuts with sloping rubble walls serves to give the rock the moderate support needed to hold it in place, arrests the progress of weathering by protecting the rock from the elements, and improves the appearance of the rock cut to a notable degree by covering the ragged edges and unsightly bands of weathered material.

(*To be continued*)

CALIFORNIA NOTES

By CLARK HARRISON

(West Coast Correspondent for Rocks and Minerals)

Stewart-Calvert Mexico Expedition

The gay caballeros are back again with colored slides, exquisite minerals and a hat full of yarns about that fascinating country "south of the border"! And the whole thing was previewed February 7, 1941 by the Southwest Mineralogists of Compton, California—an affiliate of the Rocks and Minerals Association, at the usual weekly meeting place, Manchester Playgrounds auditorium, in southside Los Angeles.

Wendell S. Stewart of Arcadia and Earl Calvert of San Gabriel, returned recently from their annual sojourn into the remote places of Old Mexico, where they found unusual and rare specimens, made colored slides, and prepared material for lectures and written articles. The minerals are exhibited at various mineralogical meetings, in connection with the colored slides and Stewart's lecture about their travels.

Most of their recent trip was devoted to the country in the Mexican state of Chihuahua, important for its rich gold and silver mines. Near the town of Los Lamentos, Stewart and his partner visited two old mines, the Erupcion, and the Ahumoda. They told of great quantities of calcite, hemimorphite, vanadinite, hematite, pyrrhotite, etc., that was seen and they brought back beautiful specimens of all these. Other localities were visited, too, some of which yielded waxy fire and cherry opals. The colored slides were taken of mines, sunsets and cloud effects, roads, country scenes, towns, people, etc.

The Southwest Mineralogists have a membership of 41. Their January field trip was conducted to Tick canyon, near Acton, California, where they secured plenty of howlite, agate and zeolites.

California Convention

The meeting place of the Sixth Annual Convention of the California Federation of Mineralogical Societies will be held at beautiful Claremont Hotel, Oakland, California, May 10-11, 1941. This is expected to be the largest and greatest mineral gathering ever held in the world. The Claremont has beautiful spacious gardens, and is a natural setting for a conclave of this kind. The East Bay Mineral Society of Alameda (affiliated with the Rocks and Minerals Association) will be host society. The president of this society is Orlin J. Bell (2710 Hillegas Ave., Berkeley),and he is also president and chairman of the convention. There will be 8000 square feet of floor space for exhibits. A review of the preliminary program includes:

1. Grand Prize, Society Exhibits.
2. Amateur mineral collection.
3a. Polished slabs.
3b. Large polished work.
4. Cabochon and small stone work.
5. Polished petrified wood.
6. Jewelry Craft (piece must contain a mounted stone).
7. Faceted stones, all classes.
8. Best fluorescent collection.

The above is the Federation Members' group. The following are for Sponsored Junior groups:

1. Minerals. First and second prize each, both boys and girls, all ages, including 18.
2. Polished work, all types. Two age groups, both boys and girls. Junior group maximum age 14 years. Senior group, maximum age 18. First and second prizes, both groups by sex.

There will be thousands of specimens from private and commercial collections; and there will be rooms for the portrayal of everything in the commercial field. It is understood that the famous colored thin section slides of William Pitts of Sunnyvale, California, will be exhibited; the gorgeous collection of opals from the collection of C. D. Woodhouse of Santa Barbara, who is president of the Federation; as well as many other fine personal collections. It is expected that there will be fine specimens on display from all over the world.

Clark Harrison, Hollywood columnist and technical writer, and West Coast Correspondent for ROCKS AND MINERALS, will be there in the interests of the magazine.

Down Mexico Way for Minerals

Collecting gems and mineral specimens in Old Mexico seems to be in great vogue these days, I suppose there are hundreds of mineralogists who go there and bring back real treasures—not only in fine specimens but slides and movies as well. These slides and movies are very instructive and interesting. Mexico is very rich in minerals and fine specimens are easily found. There is a train stop at one place called Opal—just a stopping-off place—where trains stop for 15 minutes to permit passengers so minded to get off and pick up opals along the tracks, out of the rocks used for ballast. Jade, the Oriental variety, is dug out of the ruins of ancient civilization, leaving the mystery behind of where it came from. There are mining ghost towns, large gold and silver mines, cinnabar workings, etc. Large quartz and huge selenite crystals occur there as well as cherry and fire opals, apatite crystals with phantoms and many others.

Wendell Stewart and Earl Calvert make frequent trips to Mexico. Another collector is George Moore of Los Angeles. Mr. Moore is a mining engineer, geologist and mineralogist, who has worked in the mines of Arizona, New Mexico and Mexico for a number of years. He makes frequent trips into Old Mexico, having just returned from one, and always brings back some excellent specimens. On one trip, as he was returning via Hurley, New Mexico, he dug out some large specimens of native copper (as shown in photo). The specimen in the photo is 10 inches long, 6 inches wide and 1/4 inch thick. Mr. Moore chooses his specimens with the country rock adhering to them to demonstrate how the minerals occurred.

Santa Barbara Gets Pitts' Gems.

Recently, William B. Pitts of Sunnyvale, Calif., donated a collection of some 200 polished gem stones to the department of mineralogy of the Santa Barbara Museum of Natural History. Mr. Pitts, known to many as the "Dean of the Amateur Lapidarists", has spent the past winter in Florida.

Mr. Pitts is well known, especially for his collection of lantern slides made from thin slabs of minerals. His collection is considered one of the finest of its kind in America.

Personal Notes

Forest S. Eisenbise of the Sequoia Mineral Society (Fresno) has left for China to carry on relief work.

C. D. Woodhouse, President of the California Federation of Mineralogical Societies

What they bring back! George Moore, Mining Engineer, brought back native copper from New Mexico

Wendell Stewart and his Mexican minerals exhibit at State Meet in Santa Barbara. Even his clothes are from Mexico

THE FIFTH YEAR AT TILLY FOSTER

By JOHN N. TRAINER

Barite was found at Tilly Foster last year, bringing the total number of species for this locality up to sixty. Two additional pseudomorphs were found, talc after actinolite and calcite after periclase (possibly), bringing the total number of pseudomorphs up to thirty-four. Asbestos must also be added to the list of varieties of amphibole reported for the first time.

The barite was found by Dr. Clifford Frondel and the writer as three small yellow crystals on stalactitic dolomite in a cavity in massive chondrodite. It was tested and verified by the former at Harvard and by Dr. Pough at the American museum of Natural History and is now in my collection.

The pseudomorphs, talc after actinolite and calcite after periclase (?), both found by the writer, are in a large mass with good crystals of magnetite and clinochlore. The talc was so mixed with the calcite that an optical test was inconclusive but an X-ray powder test proved the material to be talc; the blades are pale green up to an inch in length; the pearly luster is subdued.

The calcite pseudomorph shows the same cubic and pyramidal grouping and truncations as the serpentine pseudomorph after periclase (?) found at Tilly Foster. The plates, however, are not as broad and smooth but are in fact somewhat columnar. Closer re-examination of the serpentine pseudomorphs in my collection discloses that certain plates which at first were thought smooth are actually narrow strips with striations along the parting joints. It is possible that these strips in the original mineral became more pronounced in the alteration to calcite than to serpentine. Further study is necessary but for the present this pseudomorph must stay in the "possible or maybe" class.

The amphibole asbestos, also found by the writer, is in groups of matted silver-white fibers in cavities and veins in syenite with calcite, quartz and microcline. Perhaps it has been found before at this locality but there is no mention of it in the records.

Last year I added about sixty specimens to my Tilly Foster collection, including the new ones to the locality described above. Others which have interest for various reasons follow:

Amphibole - tremolite — first found massive in 1937—a polished section, one-sitxeenth of an inch thick, translucent, green with iridescent inclusions of biotite; very pretty.

Ankerite—Although this mineral was first found at Tilly Foster in 1938, not until last year could I get a good specimen. I found it with a rich brown color on a micaceous rock and there is much more where it came from.

Clinochlore—All through what was a ten pound mass of talc, calcite and magnetite, before I broke it up, I found small irregular crystals of clinochlore which, to the naked eye, are brown across the axes by transmitted light but the ends of the crystals are the usual rich dark green. I have been told that this is characteristic of the chlorites but I have never seen it before in the Tilly Foster clinochlore, even in small crystals, and it is not mentioned in Dana.. The small crystals of the penninite from Wood's mine, Lancaster County, Pennsylvania, and of the clinochlore from West Chester, Pennsylvania, show it. This is the first mineral showing this property which I have seen at Tilly Foster.

On breaking a large cleavage of dolomite, a fine group of clinochlore crystals was exposed, set on edge, fan-wise on a base of chlorite schist. A little home work cleaning away the dolomite should expose more crystals.

Datolite—For several years I have searched diligently for a specimen of this mineral, reported years ago, and I have found it at last in a vein in syenite exactly as most of the apophyllite at Tilly Foster occurs. Adding another species to the collection is an event, as I get more and more up against the law of diminishing returns.

Epidote—By breaking a weathered piece of dolomite (polysynthetically twinned, by the way) a fine crystal of epidote, the best I have yet found, was exposed, 1½ by ½ by ½ inches in size and dark in color. It always pays to break up dolomite masses.

Fluorite—While Dr. Frondel and the writer were getting the barite out of the massive chondrodite, Mr. R. C. B. Bartsch (of "The New England Notes") was beside us getting out the interesting fluorite which he described in the August, 1940 issue of "Rocks and Minerals." The crystals are trapezohedrons with three triangular faces on each corner of the cube as with analcite. He has since given me a specimen.

I also found a good group of colorless fluorite crystals covering a space of one by four inches on massive serpentine and magnetite and have secured from an old collection a fine group of rose-colored drusy spheroids.

Laumontite—In what was a cavity in syenite, four by eight inches in area, I found several clusters of small laumontite crystals interspersed with about twenty gray calcite rhombs. It is a showy piece. I keep it with other laumonite specimens in a humidor, that is, a cellophane shoe box with a dish of water in it.

Magnetite—The only specimens of this mineral which I put into the collection last year were dendrites on serpentine and needles in colorless calcite. The latter are in radiating groups and are partly brown by transmitted light.

Prehnite—Another species reported years ago which I found for the first time last year; two specimens picked up at different places and times, drusy coating on

Tilly Foster Calcite (Actual Size) J. N. Trainer Collection
(Photo by T. L. Bierwert, Am. Mus. Nat. Hist., New York)

microcline. They are poor specimens but that is not important to a locality collector with a statistical mind and there is always the hope of finding better specimens later. This prehnite and the datolite mentioned above bring the total species in my collection to fifty-four out of the sixty so far reported.

Serpentine—The variety or kind called retinalite according to Dana but not according to some collectors. It is easy to start an argument over serpentine varieties and so I say no more than that I believe I have it.

Talc—The silky white fibrous talc which I found last summer is new in my collection and perhaps to Tilly Foster.

Pseudomorphs previously reported from Tilly Foster acquired for the first time last year, in addition to the two described at the beginning of this article, are: brucite after dolomite, very dark serpentine after a hornblende crystal, pale green serpentine after brucite as plates and columns, white serpentine after calcite in pale green serpentine and dark green serpentine atfer laminated pyroxene. I now have thirty of the thirty-four pseudomorphs reported from this locality.

All through a large mass of limestone altered to serpentine found last summer are small pearly pseudomorphs of serpentine after periclase (?) which in a polished section have a schiller effect which is very attractive against the green background. Of further interest it should be noted that we here had periclase, if such it was, in limestone as at Riverside, California, and Mte. Somma, Vesuvius, Italy.

In addition to the above, I graded up and filled out my collection last year with more albite twins on hornblende, actinolite in calcite, columnar gray and green tremolite, aragonite, brucite crystals, slickensided brucite, stalactitic and crystallized dolomite, molybdenite, phlogopite in scaly folia resembling crumpled paper, curved prochlorite crystals, pyrite crystals on serpentine, a polished section of pyrrhotite showing pyrite and a vein of tremolite, bright green pyroxene crystals in pink calcite, serpentine after biotite, colloidal serpentine and a fairly good titanite crystal.

As a collector who has worked on one locality for five years and coming to the end of his rope, I find it interesting to check up on the possibility of future progress.

Tilly Foster Titanite (Actual Size)
American Museum Natural History Collection
(Photo by T. L. Bierwert, Am. Mus. Nat. Hist., New York)

The species so far reported from Tilly Foster which I have not yet secured are autunite, chrysolite (olivine), clinohumite, humite, hydromagnesite and marcasite. The kill-joys with whom I have discussed them say that I never will find them or to use their favorite adverb, will "probably" never find them. One of the two owners of the only known specimens of autunite says he will give it to me, but he has been unable to find it after two years. Chrysolite has been described as "abundant" and if so the only conclusion is that I do not know it when I see it. Clinohumite and humite have been fully described and there are specimens in certain museums which are so labeled; I suspect that they are in my pile of discarded chondrodite. Hydromagnesite loses water on exposure like laumontite and can probably be found only in freshly broken rock. Any mineral that loses water on exposure has had plenty of time to do so at Tilly Foster. Marcasite decomposes readily and can be found, if at all, only in freshly broken rock.

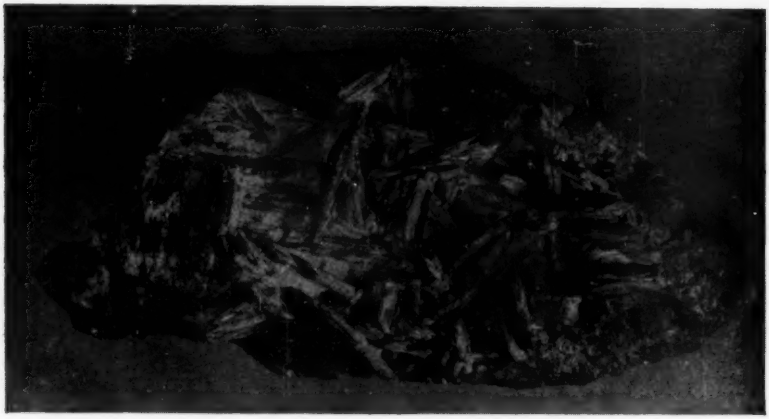
The missing varieties of serpentine are marmolite, precious and williamsite. I may have them now but do not care to go on record after noting how the "authorities" differ in their descriptions of these minerals. Take marmolite, for instance; three different mineralogists have shown me as "the true marmolite" three specimens which no more look alike than a mastiff and a French poodle. But looks are not all you go on in this field. The serpentine after hydrotalcite, in my collection, comes the closest to Dana's description of marmolite. It would be a great help if these "varieties" of serpentine could be beter described or were eliminated as unnecessary complications of the nomenclature. A descriptive term like compact green opaque serpentine is better than "bowenite" or any other silly name.

The pseudomorphs I lack are magnetite after dolomite, pyrrhotite after serpentine and serpentine atfer apatite and magnetite, all reported many years ago by J. D. Dana and others. The pyrrhotite after serpentine is, I am told, "hardly possible." There is a serpentine after magnetite in the New York State Museum at Albany but I have not seen it. J. D. Dana himself was not sure about serpentine after apatite. Pseudomorphs are a difficult subject. The best mineralogists freely use the word "probable" when describing them.

When I first started at Tilly Foster, James G. Manchester warned me to go slowly in adding to the minerals from this locality as listed in his book, "The Minerals of New York and Environs," and Mr. Herbert Whitlock said that Tilly Foster minerals were very difficult to identify. With these warnings in mind, I have been at great pains to have all the minerals in my collection checked and double-checked by competent mineralogists and the errors of identification, if any, must be few. This checking has some times resulted in keen disappointments. After working all evening on a specimen, I have gone to bed with the hope that it was something new and startling, feeling like the children in that famous Christmas poem "with visions of sugar plums dancing in their heads," only to be told in the morning by a hard-boiled hope-busting scientific man that it was common so and so. However, in the long run, there are many compensations and a final judgment by a man who knows is very satisfactory.

Three or four hours on the dumps every week end for five months last year and the contributions of generous friends enabled me to improve and enlarge the collection and to bring the total up to about three hundred and fifty specimens.

Three groups of collectors visited the mine on days when I was there, the Boston and New Haven clubs and the boys from the Fairfield (Conn.) Country Day School. They took home some good material and the New Haven Club found at last thirty species out of a possible sixty. By following them around I got some good specimens myself; I must have looked like the blind beggar with his tin cup. They had their fun with me because three of them asked me to identify a brickbat with glass fused on it, a clinker and a piece of anthracite. They must surely have been familiar with those "minerals;" perhaps they wanted to find



Tilly Foster Muscovite Crystals on Edge (Actual Size).
J. N. Trainer Collection
(Photo by T. L. Bierwert, Am. Mus. Nat. Hist., New York)

out how much I knew. Another visitor said he thought my statement that I had never seen a snake at Tilly Foster needed correction because he had seen not only one but two. There are many pieces of old wire cable about the dumps and it gives me the creeps to realize how many snakes I have stepped on believing them to be wire cable.

I am greatly indebted to Dr. Frederick H. Pough of the American Museum of Natural History and to Dr. Clifford Frondel of Harvard University for identifications and to Mr. Arthur Sandiford of Morningside, Connecticut, Mr. Carl H. Klein of Hudson, New York, Mr. Rudolph C. B. Bartsch of Brookline, Massachusetts, Mr. Wilbur J. Elwell of Danbury, Connecticut, and Mr. Carleton Siemer of Staten Island, New York, for gifts of specimens.

Editor's Note: This is the 4th article by Mr. Trainer on this famous New York locality. The others appeared in the October 1938; Feb. 1939, and April 1940 issues of the magazine.

SOME RADIUM REACTIONS ON MINERALS

By DR. WM. NEWCOMET

For the past year or so I have been exposing a few small fragments of different minerals to radium and have obtained one or two startling results. The most unusual, a crystal of kunzite, faint pink in color, changed to a green, about the shade of an aquamarine.

Small fragment of spodumene, yellowish in color, changed to a slight greenish tinge.

The clear quartz crystals became smoky, and the amethyst became darker but of a smoky tinge.

A green tourmaline crystal from Brazil became slightly darker.

A clear Thomas Mt., Utah, topaz became a deep yellow.

Amazonstone and apophyllite showed practically no change.

These crystals were first matched, one held as a control, the other placed in a lead box containing radium and exposed for about one month. The radium being in metal capsules allowed only the gamma ray to cause the changes in color.

THE OVER — MONTGOMERY — SCHORTMANN EXHIBITION SALE

January 17-18, 1941

This year the Over-Montgomery-Schortmann Exhibition Sale entered on a new phase. It was conducted by Alvin and Raymond Schortmann (Schortmann Minerals) of Easthampton, Mass. But the spirit of friendliness and cordiality was as prevalent as ever, the displays were large and unusually attractive and the number of collectors who were present and made purchasers were even more numerous and enthusiastic than in former years. One incident, not so noticeable before, was the eager scanning of the register to learn who had been in attendance and many were the expressions of regret over the discovery that some friend had been present and not seen. It was also noticeable that many collectors made repeated visits to the exhibit, oftentimes accompanied by wives, so that the ladies might have a "look-see" at the many beautiful and gorgeous minerals on display.

Alvin and Raymond Schortmann, brothers and proprietors of Schortmann Minerals, are two of America's most progressive mineral dealers. Tall, broad-shouldered and good-looking (young giants as a matter of fact) coupled with very friendly courteous manners, and with a good knowledge of minerals, it is not surprising, therefore, that they have become very popular with collectors. They have been established only a few years but the ease with which they have built up their business is most remarkable. They are a credit to the mineral business and any collector who knows them personally should feel honored.

As is usually the case, the first hour of the opening saw the room jammed with collectors, all highly enthusiastic and delighted with the specimens on display. Some exceptional new specimen and gem finds of Over-Montgomery were featured among which were some gorgeous green dioptase from the Mammoth Mine, Tiger, Arizona; very lovely greenish-blue aurichalcite from the world-famous copper mines of Bisbee, Arizona, and gem-quality moonstone (sanidine) from Grant County, New Mexico; and some of the latest outstanding accessions from the Schortmann stock. At no time during the first day was the room empty of visitors, in fact the first day resembled at times a "rush hour" in the subway as all could not be accommodated but had to wait in line for their chance to examine the exhibits.

But why waste time with preliminaries. Everyone knows that the exhibit was held on Friday and Saturday, January 17-18, 1941, from 9:00 a.m. to 9:00 p.m., on the second floor of Hotel Shelton, Lexington Ave., and 49th St., New York City. The main thought in mind is—what was on display and who were some of the lucky purchasers?

We were late in arriving and though the day was stormy we knew without scanning the register that a large number of collectors had preceded us and had picked out many specimens. "Guess there won't be much left for us to select from," we said to ourself, "but there may be a few specimens that someone had overlooked." Fortunately for us, only two or three collectors were present, all strangers, so we were free to give our entire attention for a half-hour at least to the examination of the minerals on display.

We saw that the specimens were very attractively displayed in a large and spacious room that was well lighted. The specimens consisted of crystallized minerals, loose crystals, rough and cut gems, massive and polished minerals—all numbered, labelled, priced and laid in individual trays. According to the number on the last mineral, there were 792 specimens on display, spread out on long tables which completely encircled the room except for the doorway. Bundles of small white tags, bearing the single word "sold" were conveniently on hand together with many thumbtacks. Each collector provided himself with a number of these and when he found an unclaimed specimen which met his fancy, he wrote

his name on a tag and affixed it to the tray. All purchased specimens were left on display until the exhibit was over when they were collected, boxed and shipped to the purchasers.

A large number of good-sized and very interesting photographs of localities which Over-Montgomery had worked during the past few years were hung around the room. (Edwin Over, Jr., of Colorado Springs, Colo., and Arthur Montgomery, of New York, N. Y., have leased and worked together a number of old localities for the sole purpose of acquiring mineral specimens. A large number of the minerals so obtained were on display.) A table, bearing the register and a large number of popular books on mineralogy by well-known authors, together with a number of copies of ROCKS AND MINERALS, stood at the entrance to the room.

But we are digressing. Let us get down to facts. Among the many minerals on display were:

Albite: This was represented by specimens from two localities. A beautifully crystallized white Pericline from Greiner, Tyrol, Austria, and an equally interesting crystallized specimen on chloritic quartz crystals from Goschenenalp, Switzerland.

Analcite: Only one specimen on display, but it was a group of large crystals from Seiseralp, S. Tyrol, Italy.

Anglesite: An excellent specimen from Tsumeb, S. W. Africa, was obtained by R. V. Gaines, of New York City.

Apatite: There was one very nice specimen of purplish crystals, fluorescent, too, which came from the Himalaya Mine, San Diego Co., Calif. No one had tagged it up to the time of our visit. Another very fine specimen, consisting of pink crystals associated with drusy rock crystals, was from Goschenenalp, Switzerland.

Apophyllite: Two famous localities were represented by this mineral. Sampson Mine of Andreasberg, Saxony, Germany, sent a colorless, crystallized specimen, while Poonah, India, a white, crystallized specimen.

Aragonite: This mineral was quite in evidence as specimens from four countries were on display. The iron mines of Erzberg, Austria, had a very interesting specimen of flos ferri; from Horsenz, near Bilin, Bohemia, twinned, slender, colorless crystals; a greenish-blue crust on rock (igloite) from Iglo, Hungary; and a delicate cluster of white needle-crystals from Titus Canyon, Calif., (taken by A. Aborn, of Short Hills, N. J.)

Aurichalcite: One of the features of the exhibit was a large number of very fine specimens of bluish-green aurichalcite, associated with calcite, from the world-famous copper mines of Bisbee, Arizona. Many choice specimens were taken, among the best was one by John C. Pohl, Jr., of Easton, Penn.

Autunite: This interesting fluorescent mineral from the famous pegmatite quarries of Grafton Center, N. H., received considerable attention. A nice specimen was selected by Richard Isaacs, of Brooklyn, N. Y.

Azurite: When we see very good Azurite we unconsciously think of Bisbee, Ariz. At least Leonard Morgan, of Dover, N. J., had his thoughts on Bisbee when he collected for himself one of its lovely blue crystallized minerals. Dr. E. W. Fuller, of Morris Plains, N. J., concurred with Mr. Morgan for he, too, acquired a beautiful specimen.

Barite: An interesting specimen is the variety known as "wolnyn" from Hadabula, Hungary. Some of the finest barites found in America are the blue crystals from near Sterling Colo., and a very fine loose crystal was tagged by Joseph Cilen, of Hawthorne, N. J. (Mr. Cilen, by the way, is the first Rocks and Minerals Association member known to us to be called to the colors. He is now at some army camp). A crystallized yellowish barite from the copper mines of Butte, Mont., was also displayed.

Barytocalcite: Here is a specimen not represented in our collection and we did not have sense enough to tag it. It was gray in color and crystallized and came from Alston Moor, Cornwall, England.

Beryl: This mineral is very common at many American pegmatite quarries, but when it comes to the gem emerald we have to turn to Muzo, Colombia. R. Buckingham of New York City, tagged a beautifully terminated crystal from this South American country. A nice colorless crystal (goshenite) from Newry, Me., was taken by J. Fred Poestkoke of Brooklyn, N. Y. Some very fine gemmy specimens of aquamarine from Boise Co., Idaho, created considerable interest and we were pleased to note that Alan Bergdahl of Brooklyn, N. Y., picked one out for himself.

Bismuth: When we spotted this specimen and read its label, Kingsgate, N. S. W., Australia, we immediately began to search among the oxides and sulphides for rock crystal enclosing molybdenite from the same locality. Unfortunately this long desired specimen wanted for our collection was not present.

Bismuthinite: This interesting bismuth sulphide which was associated with famatinite (copper-antimony sulphide), from Goldfield, Nev., was examined by many collectors; apparently the famatinite puzzled them.

Bournonite: Cornwall, England, is famous for its bournonites and we made our collection famous by the acquisition of a very choice specimen, small black crystals associated with drusy rock crystals. The specimen is from the Herodsfoot Mine, Cornwall.

Calamine: There were a number of specimens on display of this interesting zinc silicate. One was from the San Antonio Mine, Santa Eulalia, Mexico, that consisted of some exceptional colorless crystals. There was one specimen from Leadville, Colo., that we couldn't pass by and so our tag was affixed to its tray. It consisted of colorless, slender, radiating crystals in a pocket of dark brown limonite.

Calcite: We did not notice many calcites, but evidently they were displayed. But we do remember a very nice specimen consisting of white tabular crystals from the Wheal Friendship Mine, Devonshire, England.

Cassiterite: Tin is one of the strategic minerals so it would be natural for cassiterite to be on display. A very fine specimen of the crystallized mineral associated with rock crystal from Vegetable Creek, N. S. W., Australia, was selected by M. Plotkin of Brooklyn, N. Y. (Mr. Plotkin, by the way, was the first collector to register). E. C. Roberts, of Hackensack, N. J., secured a very good specimen associated with quartz from Cornwall, England. A very choice specimen of cassiterite and topaz, crystallized, from Trevaunance Mine, St. Agnes, Cornwall, England, was tagged by R. H. Schmidt of Long Island City, N. Y. Not to be outdone, we grabbed a specimen, too. It was a small loose crystal, cassiterite pseudo, after orthoclase, from the Wheal Coates Mine, St. Agnes, Cornwall, England.

Celestite: The second collector to register was O. Ivan Lee of Jersey City, N. J., (he was first last year) and to console himself for his setback, selected a very choice loose white celestite crystal from Yate, Bristol, England. Another very fine specimen which attracted considerable interest, a group of large crystals, was from the Giona Mine, Girgenti, Sicily.

Cerussite: One of the attractive features about the exhibit was the full labelling of localities, giving name of mine and location. For example, very fine crystallized cerussite from the Pentire Glaze Mine, Padstow, Cornwall, England and from the Mammoth Mine, Tiger, Arizona.

Chalcocite: Crystallized, from Redruth, Cornwall, England.

Chalcopyrite: A very interesting specimen consisting of chalcopyrite, siderite and hematite, all crystallized, came from the Tincroft Mine, Redruth, Cornwall, England. Who could resist tagging it? Another, equally interesting, was chalcopyrite and galena, crystallized, from the copper mine of Bingham Canyan, Utah.

Chalcostibite: From the antimony mines of Rar-el-Auz, Cherrat, Morocco, came this interesting copper-antimony sulphide to grace the cabinet of an American collector.

Chrysocolla: Another outstanding feature at the exhibit were the quartz encrusted chrysocollas from Globe, Arizona.

These went quickly. Princeton University, of Princeton, N. J., took the largest; J. D'Agostino, of Plainfield, N. J., obtained one that was the envy of many collectors; while Miss Evelyn Waite, of Crestwood, N. Y., picked out several nice ones. We did not get even one as they were all taken.

Clinozoisite: Walter P. Sachs, of Caldwell, N. J., who has one of the most complete collections known in the East, and with few exceptions, every specimen is 2x3 inches in size and of choice quality, secured a dandy when he tagged clinozoisite from Greiner, Zillertal, Tyrol.

Columbite: From the Etta Pegmatite Mine, near Keystone, S. D., was obtained a very good columbite crystal on massive smoky quartz.

Copper: We do not know if anyone obtained one of those very fine native copper specimens from Bisbee, Ariz. We do know, however, that we added to our collection a very fine specimen of copper pseudo, after a ball of azurite crystals—from Santa Rita, New Mexico.

Covellite: The great copper mines of Butte, Mont., were represented by a choice specimen of crystallized covellite.

Cryolite: Miss Sophie A. Vrahnos, of Brooklyn, N. Y., decided that the fine cryolite specimen from the cryolite mine of Ivigtut, Greenland, would look better in her collection than in any one else's and so she placed her name under it.

Cuprite: There were a number of beautiful crystallized cuprites on display. One was from Wheal Gorland Mine, Gwennap, Cornwall, England. Another, the variety in hairlike crystals called chalcotrichite, was from Bisbee, Ariz., and tagged by Robert C. Vance, of Ward's Natural Science Est., Inc., Rochester, N. Y.

Descloizite: Another mineral which the Mammoth Mine at Tiger, Ariz., is noted for is descloisite and some very fine crystallized specimens were on display and taken. For those collectors who desired African specimens they were not disappointed as a number of good ones were also available, from Friesenberg, S. W. Africa.

Dioptase: This is the mineral which created a sensation at the exhibit as it was the finest American dioptase ever seen. Its beautiful green color and fine crystal form appealed to everyone and specimens were taken up fast. It is a new find, too, and it is destined to make the Mammoth Mine, Tiger, Ariz., famous.

Dolomite: A beautiful crystallized specimen, gray in color, from Schmiedefeld,Germany, and a group of twinned whitish crystals from Traversella, Piedmont, Italy, were some dolomites noted.

Englishite: Three good friends of the Rocks and Minerals Association were united, mineralogically, when Ernest Weidhaas, of Pelham Manor, N. Y., became the possessor of a very fine specimen of englishite and gordonite from Fairfield, Utah. Englishite is named after George L. English of Rochester, N. Y., and gordonite after Samuel G. Gordon, of Philadelphia, Penn.

Ferberite: A nice crystallized specimen from Boulder Canyon, near Nederland, Boulder Co., Colo., went to Walter Helbig, of Queens Village, L. I., N. Y.

Fluorite: This beautiful and very popular mineral was present in all its glory of color and crystal form. A beautiful crystallized specimen from Weardale, Durham, England, now reposes in the collection of A. E. Johnson, of Scotch Plains, N. J. Some lucky collector obtained a golden crystal from the Scordale Mine, Appleby, Westmoreland, England, while another obtained a green, crystallized specimen from Hesselbach by Oberkirch, Baden, Germany. James C. Moore, of Bridgeport, Conn., who is constantly on the lookout for choice transparencies in minerals, found one in a nice fluorite from Mt. Antero, Colo. A beautiful white crystallized fluorite on quartz from Manhattan, Nev., was another interesting specimen on display.

Galena: A beautifully crystallized specimen from Picher, Okla., was admired by many.

Garnet, var. Almandite: One of the most interesting loose crystals on display was a garnet from Northfield, Mass.

Goethite: Two very interesting minerals that tempted us greatly were goethites. One was crystallized with rock crystals and came from the Restormel Iron Mine, Lanlivery, Cornwall, England. The other was a lamellar mass, hyacinth-red in color

(ruby glimmer) from Eiserfeld, Westerwald, Germany.

Gratonite: This lead-arsenic sulphide, discovered about two years ago at the Excelsior Mine, Cerro de Pasco, Peru, intrigued many of the collectors. It is lead gray in color and is closely related to geocronite.

Gummite: A. K. Gyzander, of Flushing, N. Y., added to his collection a very choice specimen of gummite and uraninite from a feldspar quarry of Grafton Center, N. H.

Gypsum: James F. Morton, Curator of the Paterson Museum,Paterson, N. J., was not gyped when he bought a group of large whitish crystals of selenite from the Gyp Cave of Nevada. These specimens were unusually attractive.

Hematite: One of the world's most noted iron mines is located on the little island of Elba, which is off the west coast of Italy, between the mainland and the island of Corsica. A beautiful crystallized hematite from this mine was tagged by O. B. J. Fraser, of Westfield, N. J.

Heulandite: We wonder how many collectors spotted the two beautiful heulandites on display! We did and we wasted no time in affixing our tags to their trays. One was white and crystallized from Theigarhorn, Iceland, and the other was pinkish, crystallized with pinkish stilbite, and was from Poonah, India.

Hubnerite: "Sold!" said Harry Grahl, of New York City, as he pushed his tag under a choice hubnerite from the Dragoon Mts., Arizona.

Limonite: M. Allen Northup, of Morristown, N. J., tagged one of those large cubes (pseudo, pyrite) from Pelican Point, Utah.

Magnetite: Lustrous crystals in schist from Binnenthal, Switzerland, enriched someone's collection. Lodestone from Magnet Cove, Ark., had a special attraction for John A. Grenzig, of Brooklyn, N. Y., because his name was seen under every one of the six or more specimens on display.

Malachite: A beautiful polished specimen from the copper mines of Northern Rhodesia, South Africa, carried the name of R. B. Townsend of New York City.

Marcasite: Folkstone, Kent, Eng'and, has produced many interesting specimens of marcasite, crystallized in chalk, of which one was on display, but we know of no locality but the old lead mines of Galena, Ill., for huge lustrous and attractive stalactites of the mineral. A. B. Crunden, of Montclair, N. J., secured a very choice stalactite that was about 12x2 inches in size.

Natrolite: Two very choice specimens of this interesting zeolite, in whitish needle-like crystals, were from Schieferberg, Salesl, Bohemia, and Auverque, France.

Opal: There was on display a large transparent to translucent pure mass of Mexican opal, about 6x6 inches in size, that fascinated us. It was of a quality and size such as we never saw before in an opal. So captivated were we by this specimen that for some minutes we could hardly keep our mind off of it and our notes suffered as a consequence. We do not recall its locality and have only dim recollections of seeing some opal cabochons tagged by Curtis May, of Morristown, N. J.

Orpiment: A beautifully crystallized specimen from Mercur, Utah, was acquired by George Switzer, of Yale University, New Haven, Conn.

Orthoclase: A crystallized adularia from St. Gothard, Switzerland, was tagged by C. L. Drake, of East Orange, N. J.

Pharmacolite: John N. Trainer, of New York City, whose interesting articles on the Tilly Foster Iron Mine has endeared him to many of our readers, endeared his collection by the acquisition of a choice pharmacolite from Rabengrude, Neurode, Germany.

Phosgenite: Crystallized, from the Bage Mine, Cromford, England, was of considerable interest because of its locality. Most collectors know this mineral only from the Sardinian Mines.

Polianite: From the Wolf Mine of Herdorf, Germany, came this interesting crystallized mineral.

Pollucite: This rare caesium silicate sometimes occurs in gemmy form. A very fine cut gem from Newry, Me., was tagged by Frank A. Lewis, of Brooklyn, N. Y.

Prosopite: Distinct crystals on rock, from Mt. Rosa, El Paso Co., Colo., was a specimen of more than passing interest.

Pucherite: This interesting reddish-brown bismuth vanadate from the Pucher Mine, Schneeberg, Saxony, Germany, is often associated with bismite and asbolite on quartz.

Purpurite: A deep purple showy phosphate from Grafton, N. H., which continues in popularity. A nice specimen was tagged by Dewitt Gutman, of New York City.

Pyrite: This popular mineral was conspicuous by handsome crystallized specimens from a number of localities as Cananea, Sonora, Mexico; Leadville, Colo., (one tagged by E. L. Sampter, of New York City); Butte, Mont.; and Park City, Utah.

Pyromorphite: Joseph Kuchar, of Montvale, N. J., who last year stole the show when he acquired a magnificent smoky quartz crystal embedded in flesh-colored microcline, from a new pegmatite location in Beaver Co., Utah, did not do so bad this year when he tagged a very fine crystallized, green pyromorphite from Pribram, Bohemia.

Quartz: A mineral exhibit could not be a success without displaying some quartz specimens. We saw agates from Minas Geraes, Brazil, (a beautiful polished specimen was obtained by James L. Pitcher, of Brooklyn, N. Y.), Amethysts, loose crystals from Brandberg, Swakopmund, S. W. Africa; (we tagged one); a nice group of crystals from Guanajuato, Mexico, was tagged by J. C. Boyle, of the Children's Museum, Brooklyn, N. Y.; while an excellent gemmy amethyst crystal from Rice, Va., was tagged by R. W. Babb, of Ramsey, N. J. A nice polished quartz crystal from Minas Geraes, Brazil, that contained at least 13 movable bubbles, (we counted them), was picked by Dr. H. Nevin, of Brooklyn, N. Y. A very fine polished rutilated quartz from Minas Geraes, Brazil, was selected by Harold C. Buckelew, of Newark, N. J.

Rhodochrosite: A very fine polished specimen of this gorgeous pink manganese carbonate from Catamarca Province, of northern Argentina, was taken by Prof. Betz. of Princeton University, Princeton, N. J. Miss H. Hageman, of Plainfield, N. J., claimed a nice crystallized specimen from Cananea, Sonora, Mexico.

*Samarskite*s We do not believe many collectors have this mineral, associated with columbite and both crystallized? It comes from Divina, Uba, Brazil.

Sanadine: Before the exhibit was held we seldom saw this mineral in collections because good specimens at attractive prices were not available. Now it is common and in gem quality too. This is another mineral which created a sensation at the exhibit and there were hundreds of specimens on display—all gem quality moonstones at very attractive prices. A number of them were cut en cabochon. This is another new find of Over-Montgomery and the exact locality is somewhere in Grant Co., New Mexico. F. R. Faux, of Bethlehem, Penn., the third visitor to register, secured a choice rough moonstone for his collection.

Sandstone: A rock is out of place in a mineral exhibit but not the very interesting faulted specimens from Nevada. At least Dr. B. Schwartz, of New York City did not think so for his name was seen under a nice polished specimen.

Scheelite: Very fine specimens from a number of localities were in evidence. Those noticed were: crystallized, from Zinnwald, Bohemia, from the same locality was another consisting of small crystals on a large smoky quartz crystal; small crystals on rock crystals from Dragoon Mts., Arizona.

Senarmontite: A small loose grayish crystal from Djebel-Haminate, Constantine, Algeria, intrigued us so that before we left the exhibit our name was left with the specimen.

Serpentine: Another collector who left his name with a specimen was A. Glaesser, of New York City. His tag was noted under a very fine asbestus from the Asbestus Mines of Thetford, Que., Canada.

Silver: Another collector whose motto is "Nothing but the best shall go in my collection" is T. A. Wright, of Plainfield, N. J. The very fine silver specimen from one of the mines of Cornwall, England, which carried his tag attests to this.

Smithsonite: One of the minerals which made Tsumeh, S. W. Africa, noted the world over is smithsonite and a nice crystallized specimen was selected by Dr. Julius Weber, of Columbia University, New York City.

Spinel: A large loose black crystal from Belobaka, Madagascar, was a revelation to many collectors who were familiar only with small crystals.

Stolzites Interesting crystals of this lead tungstate, in milky quartz, from the Dragoon Mts., Arizona, interested Dr. Frederick H. Pough, of the American Museum of Natural History, New York City, as his name was noted under the specimen.

Sulphur: The finest crystallized sulphurs in the world come from Sicily and with that thought in mind, William Kelly Simpson, of New York City, inserted his tag under a nice specimen from Cianciana, Sicily.

Tetrahedrite: Black, crystallized, from the Gottesgabe Mine, Roth, Nassau, Germany.

Topaz: One of those very fine transparent crystals from the Thomas Range of Utah, carried the tag of Mrs. William S. Dewey, of Mt. Vernon, (now of Crestwood) N. Y., another the tag of William Pfoser, of New York City.

Tourmaline: A nice crystal in quartz from Minas Geraes, Brazil, was taken by Merton McKown, of South Ozone Park, N. Y.; a loose tourmaline crystal from the same locality was acquired by H. G. Seaman, of West Englewood, N. J.; Master John P. Snyder, of Floral Park, N. Y., added two crystals to his collection from the same locality. Some collector secured a very nice crystal of black tourmaline from Bovey, Devonshire, England, while another a specimen of slender, black, partly radiating crystals associated with muscovite from Mt. Thompson, Plumas Co., Calif. Dr. Henry S. Canby, of New York City, obtained a nice polished section of tourmalinated quartz from Pipestone Creek, Montana.

Uraninite: Master Karl Longberg-Holm, of Bronxville, N. Y., about seven or eight years old, the youngest collector present at the exhibition but with an amazing interest in minerals, tagged a unaninite with radiagram from Grafton, N. H. Karl is a member of the Rocks and Minerals Association.

Vanadinite: A specimen which intrigued us very much consisted of reddish-yellow crystals of vanadinite sprinkled over crystallized amethyst. This was from the Mammoth Mine, Tiger, Ariz., and is now in our collection. Specimens from the same locality were commonly associated with descloizite, judging from the number present.

Variscite: A large number of polished specimens of this beautiful green phosphate with its very pleasing designs from Fairfield, Utah, were on display. One was tagged by E. F. Judd, of Upper Montclair, N. J. A variscite cabochon was selected by Louis Kirsch, of Brooklyn, N. Y.

Wulfenite: This mineral was present in large amounts from a number of localities and many specimens were taken by collectors. A nice specimen from Meiss, Jugoslavia, was tagged by Eric Olson, of Montclair, N. J. A very fine crystallized specimen from the Hilltop Mine, Hilltop, Ariz., was acquired by C. M. Thomas, of Wallingford, Conn. A specimen from the Mammoth Mine, Tiger, Ariz., carried the name of W. Farndon, of Douglaston, N. Y. Master B. Dawson, of Floral Park, N. Y., a friend of Master John B. Snyder, of the same town, placed his tag under a very choice red wulfenite crystal from the Red Cloud Mine, near Yuma, Ariz.

Zinkenite: A very nice crystallized specimen of this gray lead-antimony sulphide from the Itos Mine, Oruro, Bolivia, went into some one's collection.

The 1941 Over-Montgomery-Schortmann Exhibition Sale is now history. It was a grand success in every way. We have tried to list some of the most outstanding specimens on display with special emphasis upon one mineral purchased by those collectors known to us, most of

whom are members of the Rocks and Minerals Association. We have tried to list the tagged specimens so that they would not overlap those purchased by others.

It was most gratifying to see the number of youngsters examining the specimens and making purchases. We have listed some of them with one of their outstanding acquisitions. Masters Peter Mullen, John M. Kennedy and several others joined in pooling their purchases and bought a number of small crystals. These boys arrived with James C. Fisher, of New York City. Youngsters should be encouraged to attend exhibits because they are the collectors of tomorrow.

It is rumored that the Schortmanns may have an important announcement in the next issue of *Rocks and Minerals*. This is not so surprising as these wide-awake brothers are full of surprises—nevertheless the rumors are very intriguing. Be sure, therefore to get a copy of the May issue of the magazine if you are not a regular subscriber.

AN AGATE "OSPREY" FROM MONTANA

Several years ago a typical Yellowstone Valley scenic moss agate was picked up along the Yellowstone River, near Miles City, Custer Co., in southeastern Montana, by Mr. H. E. Murdock, of Bozeman, Mont. Recently it was cut and polished and a very attractive design was brought to light—a very good representation of an osprey alighting on a ledge.

Ospreys are native to the Yellowstone National Park region and it looks like Mother Nature's camera caught one of the birds as he was about to alight on a rock ledge with his wings fully spread to check his speed.

Before cutting the stone, Mr. Murdock thought he might get a good letter T out of the specimen but as the shaping progressed the "flapping" wings showed up. These wings became more and more pronounced which produced a more attractive "bird" picture than an "alphabet" picture so that the finishing touches were put on with this idea in mind.

Often times pictures can be detected in rough agates before cutting and careful cutting will bring out many beauties, states Mr. Murdock. Some times it is difficult to determine what will appear until cutting and polishing is completed.

Mr. Murdock, who is a member of the Rocks and Minerals Association, has a large assortment of scenic agates many of which show rare, unusual or very unique designs. We hope he may send us more notes and photos of scenic agates.

An agate "osprey" alighting on a ledge. Upper view by transmitted light. Lower view by reflected light.

COLLECTOR'S KINKS

Splitting rock with the aid of heat.

We all have had trouble in separating fine specimens from large masses of trap rock which may be collected in the field.

I have had gratifying success in separating the two by heating the rock mass (not the mineral) very hot over a laundry gas range. When the edges of the rock get red hot, I turn the cold water in the tub on it. Next I examine the joints and cracks in the rock which may result from this treatment and it is amusing to see how a slight tap of a hammer on them makes an apparent solid piece of rock fall apart.

Trap rock is probably as hard and tough as any rock we have but hidden crevices develop due to the sudden change in temperature—hot to cold. Almost any kind of rock will respond to this treatment. Perhaps certain rocks are stubborn but a second heating usually does the trick. When hot, a sudden solid blow on an anvil will break masses that have not been so obliging,

(I have mended many specimens with Dupont's transparent cement).

James A. Taylor,
Glen Ridge, N. J.

CHEMICAL ENGINEERS NEEDED FOR NATIONAL DEFENSE WORK

Qualified persons are urged by the United States Civil Service Commission to file their applications for the position of chemical engineer. Applications will be rated as received at the Commission's Washington office until further notice.

There are various grades of chemical engineer positions open, with salaries ranging from $2,600 to $5,600 a year, less the retirement deduction of 3½ percent. Engineers with experience in strategic mineral research are especially needed by the Bureau of Mines, Department of the Interior. The Regional Research Laboratories of the Department of Agriculture need persons experienced in the industrial utilization of surplus agricultural products. Separate employment lists will be established for positions in various specialized branches of chemical engineering such as fuels, foods, petroleum production, and plastics.

Applicants must have completed a 4-year college course with major study in engineering. Professional experience in chemical engineering is also required. Appointees will perform engineering work in such fields as pilot plant investigation, design and installation of equipment, and correlation of research data in the specialized branches of chemical engineering in which the appointments are made.

Further information and application forms may be obtained from the Secretary of the Board of U. S. Civil Service Examiners at any first- or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C.

MARK M. FOSTER BUYS FAMOUS OPAL MINE

Mark F. Foster, of Palo Cedro, Calif., member of the Rocks and Minerals Association and one of the best known mineral dealers on the Pacific Coast, specializing in opals, has purchased the famous Rainbow Ridge Opal Mine of Virgin Valley, Nevada. This mine acquired fame some years ago when it produced an opal specimen valued at a quarter of a million dollars.

The property, consisting of eight patended mining claims, has been idle for eight years. Mr. Foster plans to reopen it about April 15, 1941.

KIBBLEHOUSE QUARRY, PERKIOMENVILLE, PA.

By WILLIAM F. HAEBERLE

The town of Perkiomenville lies along the Perkiomen Creek and is in Montgomery County, which in turn is in the southeastern part of Pennsylvania. The name Perkiomenville is of Indian origin meaning "Somewhat Cloudy." The Perkiomen Creek has its origin in the northern part of Montgomery County, and follows a general southern course and empties into the Schuylkill River. A branch of the Reading Railroad, known as the Perkiomen Branch, and Pennsylvania Highway Route No. 29, run through the town. From the Borough of Collegeville, Route No. 29 runs along the west side of the Perkiomen Creek until it reaches the town of Perkiomenville, and there it crosses a bridge over the creek and follows along the east side.

There are many places here where one may enjoy outdoor sports both in summer and in winter. The new Montgomery County Park which has been opened here recently is an excellent place to go swimming in the summer or ice skating in the winter. One may see several varieties of wild game in this region throughout the year, pheasants and rabbits are plentiful, deer are also seen. Anyone visiting this locality on a Monday afternoon should attend the "Sales" that are conducted at the Perkiomenville Station. The "Sales" are held here each Monday afternoon throughout the year regardless of weather conditions or holidays. One may purchase just about anything here, foodstuffs, meats, hardware, clothing, etc. Auction sales are held here also, with various kinds of livestock being sold to the highest bidder. Many people attend these sales from the surrounding area, and one may also find the various Patent Medicine sellers here with their products that will cure practically anything from headaches to flat feet (so they may claim). The people of this area are engaged in farming and some are employed in mills and factories in the nearby towns.

History

There are several quarries in this area that have been in operation at one time or another some years ago. The only one working now is that owned and operated by Mr. R. K. Kibblehouse, known as the Kibblehouse Quarry. This quarry has been in operation for a number of years and is worked chiefly to furnish crushed stone of various sizes for road construction and other uses. The rock quarried is a hard shale that is locally called "trap rock".

Location

The quarry is in the southern part of Marlborough Township, Montgomery County, Penna., about ⅜ of a mile east of the town of Perkiomenville. The Unami Creek flows past the place and a little further on it empties into the Perkiomen Creek. There are several ways in which to reach this locality. One way is to start at the Borough of Collegeville, and drive north on Route No. 29 to the town of Perkiomenville. Cross the bridge over the Perkiomen Creek and turn off the main highway on to the road that leads to the town of Woxall. Cross the railroad tracks and a little further on, the place is on your left. The distance from the bridge over the Perkiomen Creek to the Quarry is about ⅜ of a mile.

Minerals

Among the many nice specimens found here are:

Calcite: colorless, white, to yellow in color. The yellow or Golden Calcite occurs in the Natrolite and the Stilbite and some specimens show the rhombohedral cleavage well. A few xls of rhombohedral form, colorless to yellow in color were collected as well as xls of hexagonal form tapering to a point some of which show terminal planes.

Chabazite: colorless, white, and light red or pink. The xls are rhombohedral in form and look almost like cubes. The xls range in color from white to light

pink, and some are colorless.

Chalcopyrite: small veins of massive material occur in the rock.

Magnetite: small grains occur in the rock.

Manganese Oxide: found in dendritic form coating the rock.

Natrolite: white to light red or pink in color. Some white radiated tufts of slender acicular xls. Tiny cubes of Pyrite are found on some specimens.

Pyrite: found in thin platy masses, massive and in xls. Small cubes occur on white Natrolite xls, also cubes are found in Stilbite and Chabazite. On some specimens the Pyrite cubes have changed to Limonite. A few octahedral xls occur here.

Stilbite: colorless, yellow to light brown in color. One specimen of spear-shaped xls attached to rock was found. Several specimens of yellow to light brown in color have the xls arranged in globular form, some in radiated groups. One light brown xled specimen is associated with thin disks of white Calcite. Some specimens contain tiny Pyrite cubes.

Collectors have heretofore been permited to visit this locality at all times. On a recent visit to this quarry, however, the Superintendent stated that on several occasions damage has been done to some of the equipment, and that if this practice continues, the quarry will be closed to collectors. It would be unfortunate for collectors should this happen, as this locality has been the source of some nice minerals.

Map showing locations of quarries and mines near Perkiomenville, Pa.

1—*Kibblehouse Quarry*
2—*Copper Mine (abandoned)*
3—*Copper Mine (abandoned)*
4—*Young's Quarry*
5—*Copper Mine (abandoned)*
6—*Road metal quarry*
7—*Road metal quarry*
8—*Road metal quarry*
9—*Road metal quarry*
10—*Road metal quarry*

Perkiomenville Creek runs north and south, paralleling the railroad and is the boundary for a number of townships.

(Topography from Geologic Map. Quakertown—Doylestown Quadrangles, Penn.—N. J., U. S. Geol. Sur. Bull. 828, Wash. D. C., 1931).

WITH OUR DEALERS

Word reaches us from a collector that Martin L. Ehrmann, of New York City, has such a large sackful of small brilliant Brazilan chrysoberyl crystals, that he is almost giving them away. Look his ad up!

Mark M. Foster, of Palo Cedro, Calif., has purchased the famous Rainbow Ridge Opal Mine located in Virgin Valley, Nevada. Mr. Foster is now destined to become the "Opal King of America." Good luck to you, Mark O pal! May your mine be loaded with opal!

Warner & Grieger, of Pasadena, Calif., had a very fine mineral exhibit at the recent Los Angeles Mineral Show. The show ran 8 days, during the worst rain storm in many years, but was a huge success with over 20,000 visitors actual count. Two very fine photos of their display was sent us.

The American Mineral Exchange, of Houston, Texas, have sent us an excellent skyline view of their city on which was marked the location of their office. This enterprising firm has just received a large shipment of a new fluorescent calcite from Ruby, Ariz.

John A. Grenzig, of Brooklyn, N. Y., has been on the sick list for several weeks. He is back in his store, personally attending to orders, but is far from being a well man.

Schortmann Minerals, of Easthampton, Mass., will have a very important announcement in the next issue of *Rocks and Minerals*. Watch for it!

Colorado Gem Co., of Bayfield, Colo., is now under new management having been sold by its proprietor, Frank Morse.

Northern Ohio Guild

Speaking before the members of the Northenr Ohio Guild of the American Gem Society at the best attended meeting ever held by this growing organization, Dr. Edward Wigglesworth, Director of the Eastern laboratory of the Gemological Institute of America, in his genial and interesting way endeared himself to every member of the group.

Dr. Wigglesworth pointed out the ways in which he and his organization can assist the individual students and their guilds in the work they are doing.

Dr. Henry Donner, of Western Reserve University, who is leader of the educational program conducted by the Guild, followed Dr. Wigglesworth's talk with one of his fine lectures on the subject of Pleochroism.

Prior to the general meeting, Dr. Wigglesworth was the honored guest at a dinner meeting of the executive body held in the Coral Room of Fenway Hall Hotel in Cleveland.

Those attending the dinner meeting were Charles Carolyne of Youngstown who presided, Dr. Donner, H. V. Chittenden, and Ray Hoover of Akron, Harold Myers of Warren and William Theis and Bruce McCague of Cleveland.

Wm. Theis, Secretary.

REV. FERDINAND E. BOGNER

It is with much sorrow that we have to announce the death of another member of the Rocks and Minerals Association.

Rev. Ferdinand E. Bogner, who had been pastor of Sts. Peter and Paul R. C. Church, Hoboken, N. J., for the past 26 years, died on March 13, 1941, in St. Mary's Hospital, that city. He was 59 years old.

Father Bogner became a member of the Association October 2, 1929. It is not known as yet what disposition is to be made of his fine mineral collection.

. . Collectors' Tales . .

By PETER ZODAC

The Non-Stop Flight of Magnetite

The big wreck of the heavily loaded ore train which jumped 350 feet before striking the ground.

Is this a world's "Wreckered" Jump!

During the winter of 1907-08, a peculiar accident happened on the right-of-way of the Lake Champlain and Moriah Railroad near Mineville in Essex County, New York. The magnetite ore from the mines was shipped along this little railroad, which descends some 1300 feet in 6 miles to Port Henry on the western shore of Lake Champlain. On this railroad there were three little switchbacks which were used as a means of giving the locomotive a rest on the way up. One of these switchbacks ran out onto a trestle about two miles below the summit of the divide.

On the particular morning of the accident, the engineer, while his train of gondolas loaded with heavy magnetite was crawling over the divide, found that the throttle was stuck, wide open. The train crew had ample warning and disembarked without delay, and the train gathered speed under a full head of steam. When it sailed out over the end of the trestle into the open air there happened to be nobody in sight to witness the crash, but iron ore, gondolas, and spare parts all piled up on top of the engine, about 350 feet beyond the end of the trestle. The crater which they made resembled the results of a minor meteorite fall and was very plainly visible when we visited the locality during the following summer. The photograph, taken by someone just after the wreck, shows the result of the crash.

A. C. Hawkins.

Clubs Affiliated With the Rocks and Minerals Association

ARIZONA

Mineralogical Society of Arizona
Geo. G. McKhann, Sec., 909 E. Willetta Street, Phoenix.
Meets at the Arizona Museum in Phoenix on the 1st and 3rd Thursday of each month.

CALIFORNIA

East Bay Mineral Society
Miss Marjory Welch, Sec., 3268 Central Avenue, Alameda.
Meets on the 1st and 3rd Thursdays of each month (except July and August), at 8:00 p.m., in the Lincoln School Auditorium, 11th and Jackson Sts., Oakland.

Northern California Mineral Society
A. L. Rogers, Sec., 137½ Joost Ave., San Francisco.
Meets on the 3rd Wednesday of the month at the Public Library in San Francisco.

Southwest Mineralogists
Mrs. Pearle Arnold, Cor. Sec., 2132 W. 76th St., Los Angeles.
Meets every Friday at 8:00 p. m. at Manchester Playground, 88th and Hoover Sts., Los Angeles.

COLORADO

Canon City Geology Club
F. C. Kessler, Sec., 1020 Macon Ave., Canon City.
Meets on the 1st and 2nd Saturdays of each month at 9:00 a.m. in the High School Building, Canon City.

Colorado Springs Mineralogical Society
Lynn M. Hopple, Sec.-Treas., Motor Route 2, Colorado Springs.

CONNECTICUT

Bridgeport Mineral Club
Mrs. Julia Walker, Sec., 55 Eaton Street, Bridgeport.
Meets in the Bridgeport Public Library on the 3rd Monday of the month.

Long Hill Mineral Club
Eugene F. Robinson, Sec., R. R. D No. 4, Box 237, Bridgeport.
Meets on the 4th Tuesday of each month, at 8:00 p.m., in the Hawley Memorial Library, Long Hill.

Mineralogical Club of Hartford
Mrs. L. T. Goodrich, Sec., 51 Jerome Avenue, Bloomfield.
Meets the 2nd Wednesday of each month, at 8:00 p.m., at 249 High St., Hartford.

New Haven Mineral Club
Mrs. Lillian M. Otersen, Sec., 16 Grove Place, West Haven.
Meets on the 2nd Monday of the month at the Y. W. C. A. on Howe St., New Haven.

ILLINOIS

Junior Mineral League
E. Johansen, Sec., Morgan Park Junior College, 2153 W. 111th St., Chicago.

MAINE

Maine Mineralogical and Geological Society
Miss Jessie L. Beach, Sec., 6 Allen Avenue, Portland.
Meets last Friday of the month at 8 p.m., at the Northeastern Business College, 97 Danforth Street, Portland.

MARYLAND

Natural History Society of Maryland
2103 N. Bolton Street, Baltimore.
Office hours, Tuesdays and Fridays, 10:00 a.m. to 5:00 p.m.

MISSOURI

National Geologist Club
Mrs. D. P. Stockwell, Pres., Mt. Olympus, Kimmswick.

NEVADA

Reno Rocks and Minerals Study Club
Mrs. Rader L. Thompson, Sec., R. F. D. 1, Box 225-A, Reno.
Meets on the 1st Wednesday of each month, at 7:30 p.m., at the Mackay School of Mines, Reno.

Western Nevada Mineral Society
A. Cornely, Sec.-Treas., P. O. Box 21764, Reno.

NEW JERSEY

Newark Mineralogical Society
William E. Simpson, Sec., 308 Grove Street, Montclair.
Meets on the 2nd Sunday of the month at 3 p.m. at Junior Hall, corner Orange and North 6th Streets, Newark.

Plainfield Mineralogical Society
Joseph D'Agostino, Sec.-Treas., 711 Sheridan Avenue, Plainfield .
Meets on the 1st Tuesday of the month at 8 p.m. at the Plainfield Public Library.

NEW MEXICO

New Mexico Mineral Society
R. M. P. Burnet, Sec.-Treas., Carlsbad.

Society of Archaeology, History and Art
Carlsbad.

NEW YORK

Chislers, The
Miss Evelyn Waite, Sponsor, 242 Scarsdale Road, Crestwood, Tuckahoe.
Meets bi-monthly at members' homes.

Queens Mineral Society
Mrs. Edward J. Marcin, Sec., 46-30—190th Street, Flushing.
Meets on the 2nd Thursday of the month at 8 p.m. at 289 Etna Street, Brooklyn.

OKLAHOMA

Oklahoma Society of Earth Sciences
W. P. Smiley, Sec.-Treas., 229 W. Jefferson Street, Mangum.
Meets on the 2nd Tuesday of each month, at 7:30 p.m., at the Historical Museum, Mangum.

PENNSYLVANIA

Thomas Rock and Mineral Club
Mrs. W. Hersey Thomas, Pres., 145 East Gorgas Lane, Mt. Airy, Philadelphia.
Meets on the 3rd Friday of each month, at 8:00 p.m., at the home of its president, Mrs. Thomas.

VERMONT

Mineralogical Society of Springfield
Victor T. Johnson, Sec., 11 Elm Terrace, Springfield.
Meets on the 3rd Wednesday of each month at 8:00 p. m. at the homes of members.

WASHINGTON

Gem Collectors Club
Mrs. Lloyd L. Roberson, Sec., 522 North 70th Street, Seattle.
Meets on the 1st and 3rd Tuesdays of each month (except during the summer) at 8:00 p.m. at the Y. M. C. A.

Washington Agate and Mineral Society
Monroe Burnett, Sec., 802 So. Central St., Olympia.
Meets on the 1st Monday of the month, at 7:30 p. m. at the home of some member.

CLUB AND SOCIETY NOTES

Mineralogical Society of Arizona

The meeting of Feb. 20, 1941, held at the Arizona Museum, Phoenix, at 8:00 p.m., was devoted to a study of the Ultra-violet light and Fluorescence. All members and their guests were invited to bring florescent specimens. A special table with step-arranged shelves some four feet long was provided. These were covered with black cloth and the specimens placed on them. This arrangement permitted all the specimens to be displayed as a unit, and also for individual specimens to be selected for special display and study.

Mr. F. V. Moynahan described Ultra-violet light and its effects. Mr. Luther Steward described and classified his specimens. Mr. J. A. Theobald, a guest from Georgetown, Colo., showed some fine specimens of scheelite, opal and metacinnabar.

Among other things displayed was a letter written with an invisible florescent ink, a solution of sodium salicylate.

Seventy members and guests were present at the meeting.

Geo. G. McKhann, Sec.

Plainfield Mineralogical Society

A regular meeting of the Society will be held on Tuesday, April 1, at 8:00 p.m., in the Plainfield Public Library, Plainfield, N. J. The program for the evening will be on Borax Minerals. Mr. W. F. Dingley of the U. S. Potash Co., will be the guest speaker; he will also display a number of borax minerals.

On Saturday, April 19, a field trip will be made to Franklin, N. J., to view several local collections of interest.

The Southwest Mineralogists Fifth Annual Exhibit

The Fifth Annual Exhibit of Minerals and Lapidary Art will be held by the Southwest Mineralogists on April 19 and 20, 1941, at the Manchester Playground Auditorium at 8800 South Hoover Street in Los Angeles, Calif.

Educational, mineral and lapidary exhibits will have a part in the show. Joe Collins will present an excellent fluorescent display on the stage of the Auditorium. There will be a number of commercial exhibits also. Charles Standridge is Chairman of the show.

Pearle Arnold, Corres. Sec.

Newark Mineralogical Society

A regular monthly meeting will be held Sunday, April 6, at 468 Orange St., Newark, N. J., at 3:00 p.m., and the program will be on Mineral Cutting and Polishing. Visitors are welcome to attend the meeting.

Rocks and Minerals Association Outing

(Preliminary Announcement)

Plans are underway for the 9th Annual Outing of the Association which will be held on Sunday, May 18, 1941.

We would appreciate the cooperation of all clubs, and especially those affiliated with the Association, to hold outings and field trips on that date. Full particulars will appear in the May issue of the magazine.

BROWN UNIVERSITY ACQUIRES BAKER COLLECTION

The mineral collection of Mr. J. W. Baker of Wrentham, Mass., has been given by his daughter, Miss Louise Baker, to Brown University and is to be maintained as the J. W. Baker Memorial Collection.

Mr. Baker began his collection at the age of 13 and continued collecting until his death. He got his specimens by purchase, exchange, and rock-cracking. By careful discrimination he built up a fine collection that appeals to both the mineralogist and the laymen. Most of the specimens were chosen for beauty and perfection of form.

Of a methodical character, Mr. Baker numbered, labeled, catalogued, and indexed all of his minerals. In addition to the usual information, he gave the history of a specimen if possible and we can, therefore, know that this neat specimen of andradite from Dognacska, Hungary, had been in the collections of George L. English, A. L. Stevens, and Ward's, or that a small radial group of quartz crystals was number 260 of the John Ruskin collection. Many of the labels from these old collections were carfeully saved, as were catalogues of old-time mineral dealers.

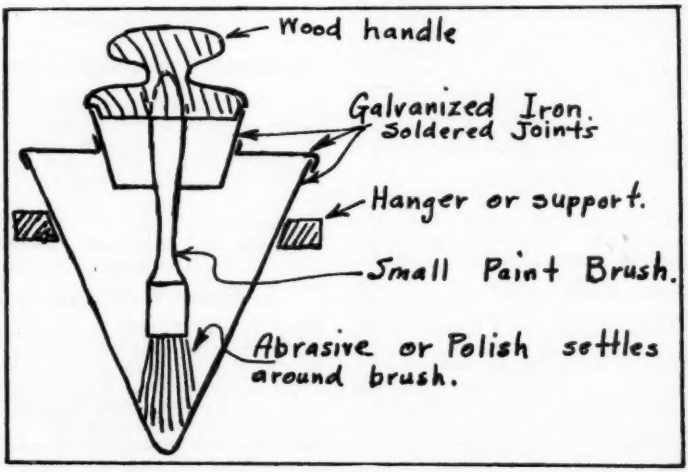
The collection includes 3753 catalogued specimens, many of them rare. They are mainly in the general collection, but there are also special collections of Rhode Island minerals, pseudomorphs, inclu- few items such as fossils, concretions, sions, gems, the Newton collection, and a and rocks. All are housed in beautiful cabinets, both drawer cases and display cases. A fine fluorescent cabinet with specimens is also included.

Brown University is indeed fortunate to receive this collection and it will be of great service in teaching.

LAPIDARY KINKS

A CONTAINER FOR LOOSE ABRASIVES

By WILLIAM J. BINGHAM

Here is a way to make a container for loose abrasives or polish that is mixed with water and applied with a brush. Due to the conical shape of the container, the abrasive always settle to the bottom around the brush and is always available without shaking or stirring.

The container can be placed in a hole in the base of the machine or hung on a bracket at any convenient place.